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| 10/660,127 | 09/10/2003 | Satoru Yukie | 113750-2002US | 6915 |

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EXAMINER

AU, GARY

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2617

DATE MAILED: 11/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/660,127

Applicant(s)

YUKIE ET AL.

Examiner

Gary Au

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10, 12 and 15-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 12 and 15-47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant's arguments with respect to claims 1, 15, 21, 27, 32, 38 and 44 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-10, 12 and 15-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,788,953 Cheah et al. (Cheah) and further in view of US Patent No. 7,065,367 Michaelis et al. (Michaelis).

As to claim 1, Cheah teaches a phone system (figure 1, col. 5 lines 18-35), comprising: a terminal unit (relay station 16 – figure 1, col. 5 lines 18-35) comprising: inherently a first antenna, a first modem connected to said first antenna (antenna 15 – figure 2, col. 6 lines 1-4 and layer 1 item 70 – figure 3 and figure 4, col. 7 lines 50-56, wherein a first modem has to modulate signals for transmission and demodulate received signals), a second antenna, a second modem connected to said second antenna (antenna 22 – figure 2, col. 6 lines 27-29 and layer 1 item 70 – figure 3 and figure 4, col. 7 lines 50-56), a modem interface connected to said first modem and to

Art Unit: 2617

said second modem (interface module 18 – figure 2, col. 5 lines 36-50 and col. 6 lines 20-26), wherein said first modem provides a first air interface using said first antenna for short range communication, said second modem provides a second air interface using said second antenna, and said second air interface is different than said first air interface (col. 5 lines 36-47, wherein cellular and cordless interfaces are able to communicate bi-directionally). However, Cheah teaches a terminal control block coupled to and operating with said first modem and said second modem to effectively process and interpret commands received at the terminal unit (microprocessor A 52 and microprocessor B 38 – figure 2, col. 6 lines 1-19 and col. 7 lines 27-47) but fails to teach a terminal control block coupled to and operating together with said first modem and said second modem.

In an analogous art, Michaelis teaches a terminal control block coupled to and operating together with said first modem and said second modem (modem controller 19 and processor 16 – figure 2, col. 5 line 50 – col. 6 line 16).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify Cheah's system to include a terminal control block coupled to and operating together with said first modem and said second modem, as taught by Michaelis, for the advantage of promoting processing efficiency in selecting the appropriate interface (col. 1 line 63 – col. 2 line 12).

As to claim 15, Cheah teaches a method of wireless communication, comprising: receiving a signal in a first air interface format from a wireless base station through a

Art Unit: 2617

first antenna of a terminal unit (figure 2, col. 5 lines 39-44 and antenna 22 – figure 2, col. 6 lines 20-25); converting said signal to a second air interface format (layer 1 – figure 3, col. 5 lines 39-44, wherein layer 1 does the modulation and demodulation of signals); sending said signal in said second air interface format to a wireless handset through a second antenna of said terminal unit (antenna 15 – figure 2, col. 5 lines 39-44 and col. 6 lines 20-26); wherein said first interface format is a wireless local loop air interface format (col. 4 lines 59-62 and col. 5 lines 8-17), said second air interface format is a short range wireless air interface format (col. 6 lines 2-5), and said signal includes voice data (col. 6 lines 2-5). However, Cheah teaches managing the wireless communication such that said receiving, said converting, and said sending are managed to effectively process and interpret commands received at the terminal unit (microprocessor A 52 and microprocessor B 38 – figure 2, col. 6 lines 1-19 and col. 7 lines 27-47) but fails to teach managing the wireless communication such that said receiving, said converting, and said sending are managed together with said first modem and said second modem.

In an analogous art, Michaelis teaches managing the wireless communication such that said receiving, said converting, and said sending are managed together with said first modem and said second modem (modem controller 19 and processor 16 – figure 2, col. 5 line 50 – col. 6 line 16).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify Cheah's system to include managing the wireless communication such that said receiving, said converting, and said sending are

Art Unit: 2617

managed together with said first modem and said second modem, as taught by Michaelis, for the advantage of promoting processing efficiency in selecting the appropriate interface (col. 1 line 63 – col. 2 line 12).

As to claim 21, Cheah teaches a method of wireless communication, comprising: receiving a signal in a first air interface format from a wireless handset through a first antenna of a terminal unit (antenna 15 – figure 2, col. 5 lines 36-39 and col. 6 lines 1-8 and 20-26); converting said signal to a second air interface format (layer 1 – figure 3, col. 5 lines 39-44, wherein layer 1 does the modulation and demodulation of signals); and sending said signal in said second air interface format to a wireless base station through a second antenna of said terminal unit (antenna 22 – figure 2, col. 5 lines 44-50 and col. 6 lines 20-26); wherein said first air interface format is a short range wireless air interface format (col. 6 lines 4-8), said second air interface format is a wireless local loop air interface format (col. 4 lines 59-62 and col. 5 lines 8-17), and said signal includes voice data (col. 6 lines 2-5). However, Cheah teaches managing the wireless communication such that said receiving, said converting, and said sending are managed to effectively process and interpret commands received at the terminal unit (microprocessor A 52 and microprocessor B 38 – figure 2, col. 6 lines 1-19 and col. 7 lines 27-47) but fails to teach managing the wireless communication such that said receiving, said converting, and said sending are managed together with said first modem and said second modem.

In an analogous art, Michaelis teaches managing the wireless communication such that said receiving, said converting, and said sending are managed together with said first modem and said second modem (modem controller 19 and processor 16 – figure 2, col. 5 line 50 – col. 6 line 16).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify Cheah's system to include managing the wireless communication such that said receiving, said converting, and said sending are managed together with said first modem and said second modem, as taught by Michaelis, for the advantage of promoting processing efficiency in selecting the appropriate interface (col. 1 line 63 – col. 2 line 12).

As to claim 27, Cheah teaches a method of wireless communication, comprising: receiving a signal including a command in a first air interface format from a wireless handset through a first antenna of a terminal unit (antenna 15 – figure 2, col. 5 lines 36-39, col. 6 lines 1-8 and 20-26 and col. 8 lines 46-49); converting said signal to command data indicating said command (layer 1 – figure 3, col. 5 lines 39-44, wherein layer 1 does the modulation and demodulation of signals); and executing said command at said terminal unit (col. 8 lines 34-46, wherein manager/controller at relay unit will execute the commands sent from handset); wherein said first air interface format is a short range wireless air interface format (col. 6 lines 1-8), said second air interface format is a wireless local loop air interface format (col. 4 lines 59-62 and col. 5 lines 8-17) and said terminal unit includes a second antenna for supporting a second air interface (antenna

22 – figure 2). However, Cheah teaches managing the wireless communication such that said receiving, said converting, and said sending are managed to effectively process and interpret commands received at the terminal unit (microprocessor A 52 and microprocessor B 38 – figure 2, col. 6 lines 1-19 and col. 7 lines 27-47) but fails to teach managing the wireless communication such that said receiving, said converting, and said sending are managed together with said first modem and said second modem.

In an analogous art, Michaelis teaches managing the wireless communication such that said receiving, said converting, and said sending are managed together with said first modem and said second modem (modem controller 19 and processor 16 – figure 2, col. 5 line 50 – col. 6 line 16).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify Cheah's system to include managing the wireless communication such that said receiving, said converting, and said sending are managed together with said first modem and said second modem, as taught by Michaelis, for the advantage of promoting processing efficiency in selecting the appropriate interface (col. 1 line 63 – col. 2 line 12).

As to claim 32, Cheah teaches a system for wireless communication, comprising: means for receiving a signal in a first air interface format from a wireless handset through a first antenna of a terminal unit (antenna 15 – figure 2, col. 5 lines 36-39 and col. 6 lines 1-8 and 20-26); means for converting said signal to a second air interface format (layer 1 – figure 3, col. 5 lines 39-44, wherein layer 1 does the modulation and

Art Unit: 2617

demodulation of signals); and means for sending said signal in said second air interface format to a wireless base station through a second antenna of said terminal unit (antenna 22 – figure 2, col. 5 lines 44-50 and col. 6 lines 20-26); wherein said first air interface format is a short range wireless air interface format (col. 6 lines 4-8), said second air interface format is a wireless local loop air interface format (col. 4 lines 59-62 and col. 5 lines 8-17), and said signal includes voice data (col. 6 lines 2-5). However, Cheah teaches means for managing the wireless communication such that said receiving, said converting, and said sending are managed to effectively process and interpret commands received at the terminal unit (microprocessor A 52 and microprocessor B 38 – figure 2, col. 6 lines 1-19 and col. 7 lines 27-47) but fails to teach managing the wireless communication such that said means for receiving, said means for converting, and said means for sending are managed together with said first modem and said second modem.

In an analogous art, Michaelis teaches means for managing the wireless communication such that said means for receiving, said means for converting, and said means for sending are managed together with said first modem and said second modem (modem controller 19 and processor 16 – figure 2, col. 5 line 50 – col. 6 line 16).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify Cheah's system to include said means for managing the wireless communication such that said means for receiving, said means for converting, and said means for sending are managed together with said first modem and said

second modem, as taught by Michaelis, for the advantage of promoting processing efficiency in selecting the appropriate interface (col. 1 line 63 – col. 2 line 12).

As to claim 38, Cheah teaches a system for wireless communication, comprising: means for receiving a signal in a first air interface format from a wireless handset through a first antenna of a terminal unit (antenna 15 – figure 2, col. 5 lines 36-39 and col. 6 lines 1-8 and 20-26); means for converting said signal to a second air interface format (layer 1 – figure 3, col. 5 lines 39-44, wherein layer 1 does the modulation and demodulation of signals); and means for sending said signal in said second air interface format to a wireless base station through a second antenna of said terminal unit (antenna 22 – figure 2, col. 5 lines 44-50 and col. 6 lines 20-26); wherein said first air interface format is a short range wireless air interface format (col. 6 lines 4-8), said second air interface format is a wireless local loop air interface format (col. 4 lines 59-62 and col. 5 lines 8-17), and said signal includes voice data (col. 6 lines 2-5). However, Cheah teaches means for managing the wireless communication such that said means for receiving, said means for converting, and said means for sending are managed to effectively process and interpret commands received at the terminal unit (microprocessor A 52 and microprocessor B 38 – figure 2, col. 6 lines 1-19 and col. 7 lines 27-47) but fails to teach means for managing the wireless communication such that said means for receiving, said means for converting, and said means for sending are managed together with said first modem and said second modem.

In an analogous art, Michaelis teaches means for managing the wireless communication such that said means for receiving, said means for converting, and said means for sending are managed together with said first modem and said second modem (modem controller 19 and processor 16 – figure 2, col. 5 line 50 – col. 6 line 16).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify Cheah's system to include means for managing the wireless communication such that said means for receiving, said means for converting, and said means for sending are managed together with said first modem and said second modem, as taught by Michaelis, for the advantage of promoting processing efficiency in selecting the appropriate interface (col. 1 line 63 – col. 2 line 12).

As to claim 44, Cheah teaches a system for wireless communication, comprising: means for receiving a signal including a command in a first air interface format from a wireless handset through a first antenna of a terminal unit (antenna 15 – figure 2, col. 5 lines 36-39, col. 6 lines 1-8 and 20-26 and col. 8 lines 46-49); means for converting said signal to command data indicating said command (layer 1 – figure 3, col. 5 lines 39-44, wherein layer 1 does the modulation and demodulation of signals); and means for executing said command at said terminal unit (col. 8 lines 34-46, wherein manager/controller at relay unit will execute the commands sent from handset); wherein said first air interface format is a short range wireless air interface format (col. 6 lines 1-8), said second air interface format is a wireless local loop air interface format (col. 4

lines 59-62 and col. 5 lines 8-17) and said terminal unit includes a second antenna for supporting a second air interface (antenna 22 – figure 2). However, Cheah teaches means for managing the wireless communication such that said means for receiving, said means for converting, and said means for sending are managed to effectively process and interpret commands received at the terminal unit (microprocessor A 52 and microprocessor B 38 – figure 2, col. 6 lines 1-19 and col. 7 lines 27-47) but fails to teach means for managing the wireless communication such that said means for receiving, said means for converting, and said means for sending are managed together with said first modem and said second modem.

In an analogous art, Michaelis teaches means for managing the wireless communication such that said means for receiving, said means for converting, and said means for sending are managed together with said first modem and said second modem (modem controller 19 and processor 16 – figure 2, col. 5 line 50 – col. 6 line 16).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify Cheah's system to include means for managing the wireless communication such that said means for receiving, said means for converting, and said means for sending are managed together with said first modem and said second modem, as taught by Michaelis, for the advantage of promoting processing efficiency in selecting the appropriate interface (col. 1 line 63 – col. 2 line 12).

As to claim 2, Cheah teaches said modem interface provides signals from said first modem to said second modem and provides signals from said second modem to said first modem (col. 5 lines 36-50 and col. 6 lines 20-26).

As to claim 3, Cheah teaches said modem interface converts signals received from said first modem to first converted signals compatible with said second modem and provides said first converted signals to said second modem (col. 5 lines 36-39, wherein cellular and cordless interfaces are able to communicate bi-directionally), and said modem interface converts signals received from said second modem to second converted signals compatible with said first modem and provides said second converted signals to said first modem (col. 5 lines 39-44, wherein cellular and cordless interfaces are able to communicate bi-directionally).

As to claims 4, 18, 22, 28, 35, 39 and 45, Cheah teaches said first air interface provides a cordless phone air interface (col. 6 lines 1-8).

As to claim 5, Cheah teaches said second air interface provides a wireless local loop air interface (col. 4 lines 59-62 and col. 5 lines 8-17).

As to claims 6, 16, 23, 29, 33, 40 and 46, Cheah teaches said second air interface provides a cellular phone air interface (col. 6 lines 27-35).

As to claims 7, 17, 24, 30, 34, 41 and 47, Cheah teaches said second interface provides a PCS air interface (col. 6 lines 27-35).

As to claim 8, Cheah teaches a handset (a cordless telephone 12 – figure 1, col. 5 lines 18-25) comprising: inherently a third antenna (a cordless telephone 12 – figure 1, col. 5 lines 18-25, wherein a cordless telephone has to have an antenna), inherently a third modem connected to said third antenna (figure 3, col. 5 lines 18-25 and col. 7 lines 50-56 and 61-65, wherein handset has to have a modem to provide wireless voice communication to and from base unit), inherently a handset user interface (figure 27, col. 8 lines 46-49 and col. 29 lines 19-25, wherein a handset user interface has to process received commands); wherein said third modem provides a third air interface using said third antenna, and said third air interface is the same as the first air interface such that the third modem can communicate with the first modem (col. 5 lines 18-25).

As to claim 9, Cheah teaches inherently a handset command interface for processing commands received through said handset user interface (col. 8 lines 45-49 and col. 29 lines 30-35, wherein a handset command interface has to process received commands).

As to claim 10, Cheah teaches said handset command interface processes commands received from said terminal unit (col. 8 lines 42-49).

As to claim 12, Cheah teaches said terminal unit further comprises: a terminal user interface (function mode manager 100 – figure 6, col. 8 lines 42-49).

As to claims 19 and 36, Cheah teaches sending a command signal in said second air interface format from said terminal unit to said handset through said second antenna (antenna 15 – figure 2, col. 8 lines 46-49 and col. 29 lines 30-35, wherein RF manager dispatches commands to handset).

As to claim 20 and 37, Cheah teaches receiving a command signal in said second air interface format at said terminal unit from said handset through said second antenna (antenna 15 – figure 2, col. 8 lines 46-49 and col. 29 lines 30-35).

As to claim 25, Cheah teaches sending a command signal in said first air interface format from said terminal unit to said handset through said second antenna (antenna 15 – figure 2, col. 8 lines 46-49 and col. 29 lines 30-35, wherein RF manager dispatches commands to handset).

As to claims 26 and 42, Cheah teaches receiving a command signal in said first air interface format at said terminal unit from said handset through said second antenna (antenna 15 – figure 2, col. 8 lines 46-49 and col. 29 lines 30-35).

As to claims 31 and 43, Cheah teaches executing said command includes using said second air interface (col. 5 lines 39-44, wherein signals are transferred to cellular transceiver for transmission to base station).

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary Au whose telephone number is (571) 272-2822. The examiner can normally be reached on 8am-5pm Monday to Friday.

Art Unit: 2617

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on (571) 272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GA

JEAN GELIN
PRIMARY EXAMINER
